REMARKS

This Amendment is filed in response to the Final Office Action mailed on April 3, 2006, and the Advisory Action mailed on June 23, 2006, and is filed herewith a Request for Continuing Examination. All objections and rejections are respectfully traversed.

Claims 1-30, 36 and 37-48 are currently pending.

Claims 47-48 are added to better claim the invention.

Claims 31-35 and 45 are cancelled.

Please enter and consider the 1.116 amendment filed on June 2, 2006.

Request For Interview

The Applicant respectfully requests a telephonic interview with the Examiner after the Examiner has had an opportunity to consider this Amendment, but before the issuance of the next Office Action. The Applicant may be reached at 617-951-3067.

Claim Rejections - 35 USC §103

At page 3 of the Final Office Action, claims 1-4, 8-24, 26-40, and 46 were rejected under 35 U.S.C. §103 as being unpatentable over Fuchs et al., US Patent No. 5,440,726, hereinafter Fuchs, in view of Karp et al., US Patent No. 5,588,117, hereinafter Karp, and further view of Jadav et al., US Patent No. 6,128,762, hereinafter Jadav.

The present invention, as set forth in representative claim 1, comprises in part:

1. A system for replay of a backup memory in a storage system having a file system for managing transfer of data to and from an attached disk array, the system comprising:

a log in the backup memory containing the storage system transaction entries accumulated after a consistency point at which time results of the storage system transaction entries are committed to the disk array;

an initiator process that establishes a swarm of messages with respect to the storage system transaction entries and delivers the swarm to the file system; and

a parallel disk information-retrieval process in the file system that is carried out on the swarm of messages in parallel by one or more processors within the storage system.

Fuchs, Karp, and Jadav are described in the 1.116 amendment filed on June 2, 2006.

Applicant respectfully urges that Fuchs, Karp, and Jadav, taken alone or in combination do not teach or disclose Applicant's claimed novel *a parallel disk information-retrieval process in the file system that is carried out on the swarm of messages in parallel by one or more processors within the storage system.* In further detail, Applicant's invention uses either a single processor in the storage system to process the message in parallel by commingling steps of separate messages of the swarm of messages, or uses more than one processor in the storage system to process the plurality of messages in the swarm, or a combination with more than one processor commingling the steps of separate messages of the swarm of messages. In contrast, Jadav discloses multiple stand alone computers each connected to a storage device of a group of storage devices.

There is no disclosure in Jadav to process the swarm of messages *in parallel by one or processors within the storage system* because Jadav describes stand alone com-

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puters running their own operating system. In contrast, Applicant's invention uses a storage system for processing the plurality (swarm) of messages *in parallel* through multiple processors or a single processor within the storage system.

Furthermore, Fuchs discloses replaying the message in the order they are received. In contrast to Fuchs, Applicant's invention processes the plurality messages by commingling the steps of the messages (i.e., not processing each, entire message in the order received) or using multiple processors to process the messages *in parallel* (i.e., not in the order they are received because for example. 2 or 3 messages are processed at one time). Fuchs does not have the capability nor does Fuchs suggest processing the messages other than in the order they are received.

Additionally, Karp describes processing the messages in the order they are received. There is no disclosure in Karp of processing the messages in parallel, nor a suggestion of processing the messages in parallel.

Accordingly, Applicant respectfully urges that Fuchs, Karp, and Jadav, taken either singly or in combination, are legally precluded from rendering Applicant's claimed novel invention unpatentable under 35 U.S.C. 103 (a) because of the absence from the cited art of Applicant's claimed novel *a parallel disk information-retrieval process in the file system that is carried out on the swarm of in parallel by one or more processors within the storage system.*

Claim Rejections – 35 USC § 102

At page 14 of the Office Action, claims 41-45 were rejected under 35 U.S.C. §102 as being anticipated by Fuchs.

The present invention, as set forth in representative claim 41, comprises in part:

41. A file system, comprising:
a backup memory storing a plurality of file system transaction entries;
a first process that establishes a swarm of messages with respect to the file system transaction entries and delivers the swarm of messages to the file system;
a second process that performs a parallel LOAD phase for a plurality of messages in the swarm of messages where the LOAD phase is processed by commingling one or more steps of the LOAD phase applied to each message of the swarm of messages; and
a third process that performs a MODIFY phase for at least some messages in the swarm of messages, the MODIFY phase operating on messages based on the order in which file system transaction entries were stored in the backup memory.

Applicant respectfully urges that Fuchs and Karp taken alone or in combination do not disclose Applicant's novel *a second process that performs a parallel LOAD phase for a plurality of messages in the swarm of messages where the LOAD phase is processed by commingling one or more steps of the LOAD phase applied to each message of the swarm of messages*. In further detail, Applicant is not processing the transaction in the order they were stored in backup memory, as taught by Fuchs and/or Karp. Applicant's invention processes all the steps of a LOAD phase by commingling the steps performed on each message of the swarm of messages. In contrast, Fuchs describes processing the messages in the order they are received, and is silent in regard to commin-

gling the steps of the LOAD phase. Fuchs only describes separate nodes (computers) that perform separate processing of the message in series. There is no disclosure in either Fuchs or Karp of *commingling one or more steps of the LOAD phase applied to each message of the swarm of messages*.

Accordingly, Applicant respectfully urges that both Fuchs, and Karp, taken either singly or in combination, are legally precluded from rendering Applicant's claimed novel invention unpatentable under 35 U.S.C. 103 (a) because of the absence from both patents of Applicant's claimed novel *a second process that performs a parallel LOAD phase for a plurality of messages in the swarm of messages where the LOAD phase is processed by commingling one or more steps of the LOAD phase applied to each message of the swarm of messages*.

All independent claims are believed to be in condition for allowance.
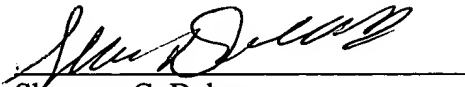
All dependent claims are dependent from independent claims which are believed to be in condition for allowance. Accordingly, all dependent claims are believed to be in condition for allowance.

Favorable action is respectfully solicited.

Please charge any additional fee occasioned by this paper to our Deposit Account

No. 03-1237.

Respectfully submitted,

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